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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/090,836	03/06/2002	Takao Takiguchi	00684.003344	5718

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FITZPATRICK CELLA HARPER & SCINTO  
30 ROCKEFELLER PLAZA  
NEW YORK, NY 10112

EXAMINER

CRANE, SARA W

ART UNIT PAPER NUMBER

2811

DATE MAILED: 08/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/090,836

Applicant(s)

TAKIGUCHI ET AL.

Examiner

Sara W. Crane

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 27 May 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 2 and 3 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 4-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION*****Election/Restrictions***

Applicant's election of species I, claims 1 and 4-16 in Paper No. 7 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

***Claim Rejections - 35 USC § 112***

Claims 1 and 4-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 sets forth a compound  $ML_mL'_n$ , where L and L' are mutually different ligands. For the case where  $n=0$ , the structure is not clear. Presumably, if  $n=0$ , then the compound would be simply  $ML_m$ , with no "mutually different" ligands, yet the claim language specifically requires mutually different ligands. Both limitations cannot be met at the same time.

Also, in claim 1, lines 15, and lines 18-19, cyclic groups "capable of having a substituent" is not clear. How would one determine whether a particular cyclic group is "capable" of having a substituent? Wouldn't any group be theoretically capable of having a substituent? And without any claim limitation to specify what the group is, how would one know whether a particular feature is a "substituent" or simply an

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unsubstituted part of the group? (In claim 8, "can be replaced with a nitrogen atom" is similarly unclear. How would one know if something "can be replaced" with nitrogen?)

Also, in claim 1, lines 16 and 19, the antecedent for "including a carbon atom and bonded to the metal atom M . . ." is not clear. Does this limitation refer to the cyclic group, or to the substituent?

Also, in claim 1, page 90, line 25, page 92, line 6, and page 93, line 13, the substituents are designated as "optional," and then a list of groups is provided from which the substituent is to be chosen. In U.S. claim practice, providing a list of substituents usually means that the claim is limited to compounds where the substituent is required to be in the list. Yet the designation "optional" would seem to imply that the substituent may not even be present. Again, it doesn't seem that both limitations can be met at the same time.

Note that for  $n=0$ , for example, the compound of the claim would presumably not even include any group corresponding to, say,  $C_yN_2$ , so it doesn't make any sense to specify what  $C_yN_2$  would have to be, if  $C_yN_2$  cannot be present in the compound.

Note also on page 92, lines 6-10, the claim language says that an "optional" substituent must be represented by formula (5). It is not clear whether a group corresponding to formula (5) must be present, or not, because of the designation "optional."

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 4-11, and 13-16, insofar as understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Lamansky et al., "Molecularly doped polymer light emitting diodes . . .".

As noted by the European examiner in the search report, figure 1 of the Lamansky reference teaches the compound Flrppy (3), which has the form  $ML_3$ , where each of the "L" includes a cyclic group with N. Thus the limitation of claim 1, with  $n=0$ , is met, the claim appears to be anticipated, and anticipation is the epitome of obviousness. Alternatively, it would have been obvious to choose fluorine as the "substituent" of the cyclic group  $C_6C_1$ , because fluorine is a well-known halogen, with no substituents chosen to correspond to  $C_6N_1$ , because of the designation "optional." The dependent claims also appear to specify compounds which are shown in the reference, hence obvious (or anticipated). Device structure of claims 13-16 would have been obvious, because the features of these claims are well-known for electroluminescent devices, and this is the purpose taught by the Lamansky reference for the materials discussed there.

***Allowable Subject Matter***

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Claim 12 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims. The groups of formula (6) in claim 12 is not taught or suggested by the prior art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to S. Crane, whose telephone number is (703) 308-4894.

The fax phone number for this Group is (703) 308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist, whose telephone number is (703) 308-0956.



Sara W. Crane  
Primary Examiner  
Art Unit 2811